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Review of: "bipolar transistors (pMOS) have a state voltage connected (Von) around ۲ to ۳ volts"

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Potential competing interests: No potential competing interests to declare.

> ***This electronic component is a bipolar transistor that uses a Mosfet at its input, and it is actually a combination of bipolar transistors (pMOS) and (Mosfet) and by combining the advantages of the two, it is an electrical element. An industry has been created with high switching speed and low input current. bipolar transistors (pMOS) are able to turn on and off much faster, but their conduction losses are higher.***

bipolar transistors (pMOS) is a transistor that has the advantages of BGT and MOSFET together, such as: high input impedance like MOSFET, which causes It can be switched to connected state with little energy. (voltage drop and low losses like BJT) such as BJTs have a small on-state (connected) voltage, for example in a device with Nominal 1000V connected state voltage (Von) is around 2 to 3 volts.The names of the bases are also chosen from the same names as before, G from MOSFET and E, C from BJT transistors. As a result, with this simple combination, you use the element that has high gate impedance and high voltage tolerance. The switching speed of this type is limited, for example, 1 KHz to 50 KHz, which is generally between two types of BJT and MOSFET. Because of its very high input impedance, it is very sensitive and is mostly used in induction furnaces to amplify the voltage range, and in general, this type of bipolar transistors (pMOS) is used. It is more for starting high power elements. The most important and almost the only function of bipolar transistors (pMOS) switching The currents are high. (pMOS) It is a fast transistor in operation, its switching and connecting time is about 1 microsecond. Because the recovery time in this transistor is very short, as a result, this transistor has good performance at high frequencies.

> ***The first grade is used as an electronic switch that is used in new devices for high efficiency and fast switching. This electrical switch is used in many modern appliances, including electric cars, trains, refrigerators, treadmills, air conditioners, and even stereo systems and amplifiers. It is also used in making all kinds of inverters, welding transformers and UPS.***

[1][2][3][4][5][6][7][8][9][10][11][12][13][14][15][16][17][18][19][20][21][22][23][24][25][26][27][28][29][30]

References

1. ^Lei Choe. (2024). Review of: "The field-effect tunneling transistor nMOS, as an alternative to conventional CMOS by enabling the voltage supply (VDD) with ultra-low power consumption,". Qeios. doi:10.32388/z3oxov.
2. ^Afshin Rashid. (2024). Review of: "transistor nMOS (with ultra-low power consumption, energy-efficient computing, during the sub-threshold range)". Qeios. doi:10.32388/1al4jb.
3. ^Afshin Rashid. (2023). Review of: "High speed (doping) nMOS graphene transistor in p- and n-doping electronic circuits (positive and negative)". Qeios. doi:10.32388/jreu5m.
4. ^Erkan Ozturk. (2023). Review of: "(Nano transistor) Electronic and biological nanotechnology (Structure, internal building)". Qeios. doi:10.32388/bt5z8a.
5. ^Linda Brouce. (2023). Review of: "(Field effect nano transistors) Nano transistor electronic quantity".Qeios. doi:10.32388/12sgvj.
6. ^Afshin Rashid. (2024). Review of: "Nano supercapacitors (supercapacitors or electrochemical nanocapacitors)". Qeios. doi:10.32388/67gwcf.
7. ^Afshin Rashid. (2024). Review of: "FinFET nanotransistor downscaling causes more short channel effects, less gate control, exponential increase in leakage currents, drastic process changes and unmanageable power densities". Qeios. doi:10.32388/hx4oyk.
8. ^Chad Allen. (2024). Review of: "FinFET nanotransistor, the reduction of scale causes more short channel effects, less gate control, an exponential increase in leakage currents, severe process changes, and power densities". Qeios. doi:10.32388/h3qk7b.
9. ^Afshin Rashid. (2023). Review of: "Nano electrical memories and testing Nickel nanoparticles NI_nanoparticle Strong conductors of electric current". Qeios. doi:10.32388/sbe8l8.
10. ^Afshin Rashid. (2023). Review of: "Reproduction (electrical nano memories) by the method combined nanolithography (١٢ V), Fast switching speed (١ microsecond)". Qeios. doi:10.32388/jg1x8x.
11. ^Afshin Rashid. (2023). Review of: "Experiment (nanoelectronic memory) using small organic molecules Chlorophyll pseudo instead of charge storage capacitors". Qeios. doi:10.32388/k0x2ro.
12. ^Marcus Webster. (2024). Review of: "Graphene molecular nanomemories show unique electronic properties, and their small dimensions, structural strength, and high performance make them a charge storage medium for Nano memory applications". Qeios. doi:10.32388/a6k2u7.
13. ^Anita Gupta. (2023). Review of: "Amplification of Nano Wires Nano Wire by Electron Nano Lithography".Qeios. doi:10.32388/l3md1n.
14. ^Cita O,brain. (2023). Review of: "The changes in the width of the nano transistor channel due to the field effect of the gate around can cause undesirable changes and loss of mobility". Qeios. doi:10.32388/5pfxk9.
15. ^Afshin Rashid. (2023). Review of: "(Field effect nano transistors) Nano transistor electronic quantity and ionization potential)". Qeios. doi:10.32388/464lg7.

16. ^Afshin Rashid. (2023). Review of: "The concept of (Nano assembler) in smart electronic nano structures".Qeios. doi:10.32388/atyte1.
17. ^Afshin Rashid. (2023). Review of: "Oligophenylene vanillin (silicon/germanium) structured nanowires and cylinders for possible applications in electronic energy". Qeios. doi:10.32388/i5wrmf.
18. ^Afshin Rashid. (2023). Review of: "Propagation of Oligophenylene vanillin nanowires by focused ion beam (FIB) nanolithography method (below ۱۰۰ nm - ۱۰ nm range)". Qeios. doi:10.32388/whhfa8.
19. ^Afshin Rashid. (2023). Review of: "Nano wire immersion method (structure and function)".Qeios. doi:10.32388/0od0gl.
20. ^Carlos Sanchez. (2023). Review of: "Oligophenylene vanillin (silicon/germanium) structure". Qeios. doi:10.32388/59igyk.
21. ^Andria Pandich. (2023). Review of: "Nano wire immersion method (structure and performance)".Qeios. doi:10.32388/efe18p.
22. ^Andrea County. (2023). Review of: "The concept of (Nano assembler)".Qeios. doi:10.32388/xrrt0e.
23. ^Luola Sendros. (2024). Review of: "nMOS instead of exhibiting thermionic emission modulation, changes through a quantum tunnel modulation 12> They change through a dam.". Qeios. doi:10.32388/5sdms6.
24. ^Lucas Jeferson. (2024). Review of: "Graphene in nMOS field-effect transistors". Qeios. doi:10.32388/1aozqy.
25. ^Afshin Rashid. (2024). Review of: "Many types of electrical nano-sensors using CP nanomaterials designed for nano-biological applications". Qeios. doi:10.32388/lytuvb.
26. ^Afshin Rashid. (2024). Review of: "In general, an electrical nano-biosensor consists of an immobilized static biological system (based on their own built-in immobilized static biological system)". Qeios. doi:10.32388/pq6ho0.
27. ^Afshin Rashid. (2024). Review of: "A combination of interference nanolithography and nanoelectronics lithography enables the fabrication and reproduction of high-resolution structures in large areas". Qeios. doi:10.32388/qy3s52.
28. ^Prienna Radochevich. (2024). Review of: "Block nanolithography Oriented copolymer is a combination of top-down lithography and the bottom-up self-organization of two polymers to produce high-resolution nanopatterns over large areas". Qeios. doi:10.32388/a0nexa.
29. ^Prienna Radochevich. (2024). Review of: "Block nanolithography Oriented copolymer is a combination of top-down lithography and the bottom-up self-organization of two polymers to produce high-resolution nanopatterns over large areas". Qeios. doi:10.32388/a0nexa.
30. ^Afshin Rashid. (2024). Review of: "Nano supercapacitor called (electrostatic) -- The total thickness of each < a i=4>electrostatic nanocapacitors only 25 nm". Qeios. doi:10.32388/247k3y.